

In The Claims

1. (Amended) An active pixel sensor circuit comprising:
a photodetector;
a reset transistor connected between the photodetector and a first bus;
a snapshot transistor having a node connected to the photodetector;
a driver transistor connected to a second bus and the snapshot transistor; and
an isolation transistor connected between the driver transistor and a column bus;
wherein the transistors are MOSFETs and a tapered reset signal is applied to the
reset transistor in order to reset the photodetector.

2. Cancelled

3. Cancelled

4. (Amended) The active pixel sensor circuit of Claim 3 1, wherein a charge from the
photodiode photodetector is transferred to a gate capacitance of the driver transistor via the
snapshot transistor.

5. (Original) The active pixel sensor circuit of Claim 4, wherein the reset transistor
discharges any charge left on the photodetector along with any charge on the gate of the driver
transistor during a reset operation.

6. (Original) The active pixel sensor circuit of Claim 5, wherein the reset transistor is
disabled during a signal integration mode and a snapshot image capture mode.

7. (Original) The active pixel sensor circuit of Claim 6, wherein, after snapshot image
capture, the reset transistor is enabled in order to drain any unwanted charge that is generated
after the integration mode.

8. (Original) The active pixel sensor circuit of Claim 7, further comprising a column
buffer connected to the column bus.

9. (Original) The active pixel sensor circuit of Claim 8, further comprising a row driver circuit connected to the driver transistor.

10. (Amended) An active pixel sensor circuit comprising:

photodetector means for converting light into an electrical signal;

image snapshot means connected to the photodetector for transferring the signal from the photodetector;

reset means for resetting the photodetector after the image has been transferred;

amplifier means for amplifying the signal from the snapshot means; and

isolation means for isolating the circuit from a column bus;

wherein a tapered reset signal is applied to the reset means in order to reset the photodetector means.

11. (Amended) A method for snapshot image formation in an active pixel sensor, the method comprising:

resetting a photodetector with a tapered clock signal;

integrating a charge signal on the photodetector;

transferring the charge signal from the photodetector to a capacitance via a snapshot transistor; and

reading out the signal to a bus.

12. Cancelled

13. (Amended) The method of Claim 12 11, wherein the capacitance is a gate capacitance on a driver transistor.

14. (Amended) A CMOS imager array comprising a plurality of pixels, each pixel comprising:

a photodetector;

a reset MOSFET having a source connected to the photodetector, a gate connected to a reset input signal, and a drain connected to a first bus;

a snapshot MOSFET having a source connected to the photodetector and a gate connected to a snapshot signal;

a driver MOSFET having a drain connected to a second bus and a gate connected to a drain of the snapshot MOSFET; and

an isolation MOSFET having a drain connected to a source of the driver MOSFET, a gate connected to an access signal, and a source connected to a column bus;

wherein a tapered reset signal is applied to the reset MOSFET in order to reset the photodetector.

15. (Original) The imager array of Claim 14, wherein the reset, snapshot, driver and isolation MOSFETs are all of the same polarity.

16. (Original) The imager array of Claim 15, further comprising a row driver circuit connected to the second bus.

17. (Original) The imager array of Claim 16, further comprising a column buffer circuit connected to the column bus.

18. Cancelled